

PCN Number:	20211110005.1		PCN Date:	November 17, 2021	
Title:	Qualification of additional Fab site options (UMC12i and DMOS6) for select devices				
Customer Contact:	PCN Manager		Dept:	Quality Services	
Proposed 1st Ship Date:	Feb 17, 2022		Estimated Sample Availability:	Date provided at sample request.	
Change Type:					
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Assembly Materials
<input type="checkbox"/>	Design	<input type="checkbox"/>	Electrical Specification	<input type="checkbox"/>	Mechanical Specification
<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Wafer Bump Material	<input type="checkbox"/>	Wafer Bump Process
<input checked="" type="checkbox"/>	Wafer Fab Site	<input type="checkbox"/>	Wafer Fab Materials	<input checked="" type="checkbox"/>	Wafer Fab Process
		<input type="checkbox"/>	Part number change		
PCN Details					
Description of Change:					
Texas Instruments is pleased to announce the qualification of an additional fabs (UMC12i and DMOS6) for the selected devices listed in the "Product Affected" section.					
Current Fab Site			New Fab Site		
Current Fab Site	Process	Wafer Diameter	New Fab Site	Process	Wafer Diameter
TSMC-F14	F021	300mm	UMC12i	F65	300mm
			DMOS6	F65	300mm
In support of the qualification of the UMC12i and DMOS6 Wafer Fab sites, the flash design library was changed to allow production in the new fab sites. The change does not impact device functionality, and device performance is accounted for in the respective datasheet specifications.					
Qual details are provided in the Qual Data Section.					
Reason for Change:					
Continuity of supply					
Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):					
None					

Changes to product identification resulting from this PCN:

Symbol: from Errata, part number may vary.

2.3 Package Symbolization and Revision Identification

Figure 2-1 and Table 2-1 describe package symbolization and the device revision code.

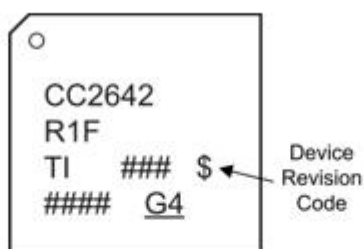


Figure 2-1. Package Symbolization for Silicon Revision E

Table 2-1. Revision Identification

DEVICE REVISION CODE	SILICON REVISION
E	PG2.1 (see following NOTE)
F	PG3.0 (see following NOTE)

Note

- PG2.1 and PG3.0 are functionally equivalent and share the same data sheet specifications.
- PG3.0 was introduced to support the release into additional wafer fab sites.

Fab Site Information:

Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
TSMC-F14	T14	TWN	Tainan City
UMC12i	UMI	SGP	Singapore
DMOS6	DM6	USA	Dallas

Sample product shipping label (not actual product label)

TEXAS INSTRUMENTS
 MADE IN: Malaysia
 2DC: 20:
 MSL '2 /260C/1 YEAR SEAL DT
 MSL 1 /235C/UNLIM 03/29/04
 OPT:
 ITEM: 39
 LBL: 5A (L)T0:1750

(1P) SN74LS07NSR
 (Q) 2000 (D) 0336
 (31T) LOT: 3959047MLA
 (4W) TKY (1T) 7523483SI2
 (P)
 (2P) REV: (V) 0033317
 (20L) SGO: SHE (21L) CCO: USA
 (22L) ASO: MLA (23L) ACO: MYS

Product Affected:

Group 1 – Adding UMC12i Wafer Fab site:

CC1312R1F3RGZR	CC1352P1F3RGZR	CC1352R1F3RGZR	CC1352R1F3RGZT
CC1312R1F3RGZT	CC1352P1F3RGZT		

Group 2 – Adding DMOS6 Wafer Fab site:

CC2642R1FRGZR	CC2642R1FRGZT	CC2652R1FRGZR	CC2652R1FRGZT
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Group 3 – Adding UMC12i and DMOS6 Wafer Fab site:

CC2652P1FRGZR

Qualification Report

Approve Date 30-Apr-2021

Qualification Results

Data Displayed as: Number of lots / Total sample size / Total failed

Type	Test Name / Condition	Duration	Qual Device: CC1312R1F3RGZ	Qual Device: CC1352P1F3RGZ	Qual Device: CC1352P1F3RGZ	Qual Device: CC1352R1F3RGZ	Qual Device: CC1354DB	Qual Device: CC2652R1F3RGZ	QBS Package Reference: CC2640R2FRGZ	QBS Package Reference: CC2640R2FRGZ	QBS Package Reference: CC2640R2FRHB	QBS Package Reference: CC2640R2FRSM	QBS Package Reference: CC2640R2FRGZ
HAST	Biased HAST, 110C/85%RH	264 Hours	-	-	-	-	-	-	-	1/77/0	-	-	3/231/0
AC	Autoclave 121C	96 Hours	-	-	-	-	-	-	3/231/0	1/77/0	1/77/0	1/77/0	-
TC	Temperature Cycle, -55/125C	700 Cycles	-	3/230/0	1/77/0	-	-	-	3/231/0	1/77/0	1/77/0	1/77/0	-
HTSL	High Temp Storage Bake, 150C	1000 Hours	-	-	-	-	-	-	3/221/0	1/77/0	1/77/0	1/77/0	-
HTOL	High Temp. Operating Life, 125C	1000 Hours	-	-	-	-	3/231/0	-	-	-	-	-	-
EDR	High Temp. Data Retention, 150C, W/E cycle preconditioning	1000 Hours	-	-	-	-	3/231/0	-	-	-	-	-	-
HBM	ESD HBM	2000 V	-	1/3/0	-	1/3/0	-	1/3/0	-	-	-	-	-
CDM	ESD CDM	500 V	1/3/0	1/3/0	1/3/0	1/3/0	-	1/3/0	-	-	-	-	-
LU	Latch-Up, High Temp	+/- 100 mA and 1.5 x Vmax @ max Tj=105C	-	1/6/0	-	1/6/0	-	-	-	-	-	-	-

- QBS: Qualification By Similarity

- Qualification Devices CC1312R1F3RGZ, CC1352P1F3RGZ, CC1352P1F3RGZ, CC1352R1F3RGZ, CC1354DB, CC2652R1F3RGZ are qualified at Moisture Sensitivity LEVEL3-260C

- Preconditioning was performed for Autoclave, Unbiased HAST, Biased HAST, Temperature Cycle, and HTSL

Quality and Environmental data is available at TI's external Web site: <http://www.ti.com/>

Green/Pb-free Status:

Qualified Pb-Free (SMT) and Green

Qualification Report

Approve Date 20-Sep-2021

Qualification Results

Data Displayed as: Number of lots / Total sample size / Total failed

Type	Test Name / Condition	Duration	Qual Device: CC1312R1F3RGZR	Qual Device: CC1352P1F3RGZ - CDAT	Qual Device: CC1352P1F3RGZ - CLARK	Qual Device: CC1352R1F3RGZR	Qual Device: CC1354DB	Qual Device: CC2652R1FRGZR	QBS Package Reference: CC2640R2FRGZ	QBS Package Reference: CC2640R2FRGZR	QBS Package Reference: CC2640R2FRHBR	QBS Package Reference: CC2640R2FRSM	QBS Package Reference: CC2640R2FRSMR
AC	Autoclave 121C	96 Hours	-	-	-	-	-	-	-	1/77/0	1/77/0	-	1/77/0
HAST	Biased HAST, 110C/85% RH	264 Hours	-	-	-	-	-	3/231/0	1/77/0	-	-	-	
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	-	-	-	-	3/231/0	1/77/0	1/77/0	-	1/77/0	
PC	PreCon Level 3	Elec/25C	-	1/89/0	3/243/0	-	-	-	1/309/0	1/231/0	1/77/0	1/231/0	
TC	Temperature Cycle, -55/125C	700 Cycles	-	1/77/0	3/231/0	-	-	3/231/0	1/77/0	1/77/0	1/77/0	1/77/0	
HTOL	High Temp. Operating Life, 125C	1000 Hours	-	-	-	-	3/231/0	3/231/0	-	-	-	-	
LU	Latch-up, 105C	+/- 100 mA and 1.5 x Vmax @ max Tj=105C	-	-	1/6/0	1/6/0	-	1/3/0	-	-	-	-	
CDM	ESD - CDM	250, 500, 750* V	1/3/0	1/3/0	1/3/0	1/3/0	-	1/3/0	1/3/0	-	-	1/3/0	

Type	Test Name / Condition	Duration	Qual Device: CC1312R1F3RGZR	Qual Device: CC1352P1F3RGZR - CDAT	Qual Device: CC1352P1F3RGZR - CLARK	Qual Device: CC1352R1F3RGZR	Qual Device: CC1354DB	Qual Device: CC2652R1FRGZR	QBS Package Reference : CC2640R2FRGZ	QBS Package Reference : CC2640R2FRGZR	QBS Package Reference : CC2640R2FRHBR	QBS Package Reference : CC2640R2FRSM	QBS Package Reference : CC2640R2FRSMR
CDM	Auto ESD - CDM	250, 500, 750*, 1000 V	-	-	1/3/0	-	-	-	1/3/0	-	-	-	-
HBM	ESD - HBM	1000V	-	-	1/3/0	1/3/0	-	1/3/0	1/3/0	-	-	1/3/0	-
EDR	W/E Endurance, 125C	100K Cycles	-	-	-	-	3/231/0	-	-	-	-	-	-
Memory Retention	150C (500,1000 hour)	1000 Hours	-	-	-	-	3/231/0	-	-	-	-	-	-

- Qual Device: CC1354DB included for the Memory Retention data it provides.
- QBS: Qual by Similarity
- Qual Device CC1352P1F3RGZR - CDAT is qualified at LEVEL3-260C
- Qual Device CC1352P1F3RGZR - CLARK is qualified at LEVEL3-260C

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable

- The following are equivalent HTOL options based on an activation energy of 0.7eV : 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours
- The following are equivalent HTSL options based on an activation energy of 0.7eV : 150C/1k Hours, and 170C/420 Hours
- The following are equivalent Temp Cycle options per JESD47 : -55C/125C/700 Cycles and -65C/150C/500 Cycles

Quality and Environmental data is available at TI's external Web site: <http://www.ti.com/>
Green/Pb-free Status:
Qualified Pb-Free (SMT) and Green

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